

WHAT IS CLAIMED IS:

1. An optical pick-up actuator comprising:

a lens holder mounted with an object lens and attached
5 with coils at an outer surface thereof;

a plurality of supporting means adapted to support the
lens holder;

a fixed body mounted with the lens holder and attached
with a pair of first magnets and a coil, the first magnets and
10 the coil serving to move the lens holder in a desired
direction; and

second magnets mounted to the lens holder and adapted to
move the lens holder in a direction different from the
direction of the movement carried by the first magnets and the
15 coil.

2. The optical pick-up actuator according to claim 1,
wherein the first magnets serve to conduct tracking and
focusing operations, and the second magnets serve to conduct a
20 tilt compensating operation.

3. The optical pick-up actuator according to claim 1,
wherein the second magnets are arranged in the lens holder.

25 4. The optical pick-up actuator according to claim 1,

wherein the second magnets comprises a magnet for conducting a tangential tilt compensating operation, and a magnet for conducting a radial tilt compensating operation.

5 5. The optical pick-up actuator according to claim 1, wherein the lens holder serves as the second magnets.

10 6. The optical pick-up actuator according to claim 1, wherein the coils are mounted to the fixed body to which the first magnets are mounted.

15 7. The optical pick-up actuator according to claim 1, wherein one of the coils is mounted to the fixed body to which the first magnets are mounted, and the remaining coils are mounted to separate fixed bodies, respectively.

20 8. The optical pick-up actuator according to claim 7, wherein the separate fixed bodies are arranged at opposite sides of the lens holder, respectively.

 9. An optical pick-up actuator mounted with an object lens and driven by a magnetic suspension, thereby recording information on a disk and reproducing the recorded information from a disk, comprising:

25 first magnet means operated by a moving magnet system to

conduct tracking and focusing operations; and

second magnet means operated by a moving coil system to conduct a tilt compensating operation.

5 10. The optical pick-up actuator according to claim 9, wherein the second magnet means is adapted to conduct a tilt compensation in a tangential direction and a tilt compensation in a radial direction.

10 11. The optical pick-up actuator according to claim 9, wherein the second magnet means comprises a magnet unit for conducting a tilt compensation in a tangential direction, and a magnet unit for conducting a tilt compensation in a radial direction.

15 12. An optical pick-up actuator mounted with an object lens and driven by a magnetic suspension, thereby recording information on a disk and reproducing the recorded information from a disk, comprising:

20 first magnet means operated by a moving coil system to conduct tracking and focusing operations; and

second magnet means operated by a moving magnet system to conduct a tilt compensating operation.

25 13. The optical pick-up actuator according to claim 12,

wherein the first magnet means is adapted to conduct a tilt compensation in a tangential direction and a tilt compensation in a radial direction.

5 14. The optical pick-up actuator according to claim 12, wherein the first magnet means comprises a magnet unit for conducting a tilt compensation in a tangential direction, and a magnet unit for conducting a tilt compensation in a radial direction.

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15 15. An optical pick-up actuator mounted with an object lens and driven by a magnetic suspension, thereby recording information on a disk and reproducing the recorded information from a disk, comprising:

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 a first magnetic circuit unit driven in accordance with a moving coil system for tracking and focusing operations or radial and tangential tilting operations; and

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 a second magnetic circuit unit driven in accordance with a moving magnetic system for the radial and tangential tilting operations when the first magnetic circuit unit is driven for the tracking and focusing operations while being driven in accordance with the moving magnetic system for the tracking and focusing operations when the first magnetic circuit unit is driven for the radial and tangential tilting operations.

16. The optical pick-up actuator according to claim 15,
wherein magnetic paths for the magnetic circuit units
respectively driven for the tracking and focusing operations
and the radial and tangential tilting operations are present in
the same space.

17. The optical pick-up actuator according to claim 15,
wherein one of four magnetic circuits included in each of the
magnetic circuit units and respectively adapted to conduct the
tracking, focusing, radial tilting, and tangential tilting
operations is present beyond the magnetic path for the
associated magnetic circuit unit.

18. The optical pick-up actuator according to claim 15,
wherein coils included in each of the magnetic circuit units
for the tracking and focusing operations or the radial and
tangential tilting operations is supplied with current via a
supporting means adapted to support the lens holder, and coils
included in the magnetic circuit unit and associated with the
remaining operations are connected to a fixed body.

19. The optical pick-up actuator according to claim 15,
wherein coils included in each of the magnetic circuit units
the tracking and focusing operations and the radial and
tangential tilting operations, a lens holder adapted to hold

the object lens, and magnets mounted to the lens holder are made of a plastic material.

20. An optical pick-up actuator comprising:

5 a moving part which includes a lens holder mounted with an object lens, a magnet and coils at an outer surface of said moving part;

a fixed part which includes a magnet attached on a yoke and coils at an outer surface of said fixed part; and

10 a plurality of supporting means adapted to support said moving part;

wherein said moving part and said fixed part have a configuration of a combination of a moving coil system and a moving magnet system;

15 wherein a flux linkage resulting from the magnetic circuit of both said moving part and said fixed part exists in a space between said moving part and said fixed part.